Final NPDES General Permit for Discharges from New and Existing Sources in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category for the Western Portion of the Outer Continental Shelf of the Gulf of Mexico (GMG290000)

Agency: United States Environmental Protection Agency

Action: Final Issuance of a National Pollutant Discharge Elimination System Permit

---

Summary: Region 6 of the United States Environmental Protection Agency (EPA) today issues a final National Pollutant Discharge Elimination System (NPDES) general permit for discharges by Oil and Gas Extraction facilities located in the Western Gulf of Mexico (GMG290000). The permit authorizes discharges from new and existing sources and new discharges of Offshore Subcategory of the Oil and Gas Extraction Point Source Category (40 CFR Part 435, Subpart A) located in and discharging pollutants located in and discharging to Federal waters seaward of the outer boundary of the territorial seas offshore of Louisiana and Texas. This final permit replaces the expired general permit issued in two parts on two parts on November 2, 1998 (63 FR 58722), and April 19, 1999 (64 FR 19156) and modified on January 22, 2001 (66 FR 6850).

Dates: All limits, prohibitions, and monitoring requirements shall become effective thirty days after the publication date of the permit in the Federal Register.

For Further Information Contact: Ms. Diane Smith, EPA Region 6 (6WQ-C), 1445 Ross Avenue, Dallas, Texas 75202-2733. Telephone: (214) 665-7191.

Supplemental Information: Pursuant to section 402 of the Clean Water Act (CWA), 33 U.S.C. section 1342, EPA proposed and solicited comments on the reissued NPDES general permit GMG290000 at 69 FR 39478 (June 30, 2004). The comment period closed on July 30, 2004.

EPA received comments from the Offshore Operators Committee (OOC), Minerals Management Service, Petroleum Equipment Suppliers Association, Cognis Oilfield Chemicals, Murphy Exploration and Development Company, and W&T Offshore, Inc. In response to those comments several changes and clarifications were made in the permit's language.

A summary of the comments received on the proposed permit and EPA's responses to those comments follows.

Response to Comments.

Comment Number 1:

The Offshore Operators Committee (OOC) and Murphy Oil requested that the term of the reissued permit be five years rather than the proposed term of three years. They stated that the proposed study to determine the potential impacts of produced water discharges on hypoxia will be difficult to complete in time to be used in the decision making process for the next permit, if it is issued on an expedited schedule of three years. Collection of produced water biochemical oxygen demand data alone will not meet the goals of determining the impacts of produced water discharges. To be useful, the study needs to collect information on all the sources which cause the hypoxia and how they interplay. It is not likely that such a study could be completed in less than three years. In addition, since historically, the permit has never been reissued on time, a three-year permit will have a greater potential to interrupt exploration for energy resources than a five-year permit.

Response:

EPA understands the complexity of such a study and realizes that it will take a concerted effort to complete a study in time to produce results which are useful in developing future permit conditions. EPA will coordinate efforts on such a study with Industry and with the Minerals Management Service so that resources are efficiently utilized and it is accomplished in a timely manner. However, timely resolution of the environmental issues surrounding the potential impacts to hypoxia is highly important. The permit is, therefore, being issued for a term of three years so that EPA can promptly respond to concerns regarding hypoxia. In addition, the expedited timing for permit reissuance will help to better coordinate EPA's permit issuance with the environmental study program conducted by MMS. Through coordination of the two programs, resources will be most efficiently used to produce the best possible science for both agencies. EPA believes that better coordination with other Federal Agencies and timely completion of the hypoxia study will help to resolve issues surrounding this permit and enable more timely reissuance in the future.

Comment Number 2:

OOC commented that studies conducted to date have not shown that hypoxia causes a significant impact on fisheries. There appears to be some evidence that the hypoxia could potentially impact fisheries if it worsens, but the available literature does not suggest that there is presently an impact.

Response:

EPA agrees that the studies to date have not shown a significant impact on fisheries. It also appears that the volume of produced water currently being discharged to the hypoxia does not cause a significant impact. However, Ocean Discharge Criteria (clean Water Act section 403(c)) obligates EPA to study the potential impacts of discharges which may be authorized by

the permit in the future. In order to ensure that those future discharges do not adversely impact the marine environment EPA will collect information on the characteristics of the existing discharges and will conduct a study to determine the potential for future impacts. As a part of those efforts, data collection requirements are included in the final permit.

Comment Number 3:

OOC commented that the Fact Sheet implies that only trivial efforts have been made to determine the potential effects of produced water discharges under Gulf of Mexico (GOM) conditions. The organization requested that the record show that impacts from oil and gas discharges have been studied at length and careful investigations so far have failed to indicate that adverse effects from produced water discharges can be expected under GOM conditions.

Response:

Although produced water discharges have been studied at length through quality efforts such as OOC's bioaccumulation study, no significant efforts have been made to date in studying the potential impacts of produced water discharges on hypoxia. Given the high density of discharges in the hypoxic zone, it is important to conduct more detailed studies at this time. Information which is expected to be obtained through future studies will help EPA meet its obligations under Ocean Discharge Criteria.

Comment Number 4:

OOC commented that the mere collection of discharge composition and properties, which is proposed, will fail to achieve EPA's objective of determining the impacts of produced water discharges on the hypoxia. The organization requested that the study include: collection of specific discharge structure information; kinetic modeling of oxygen consumption by discharge pollutants; a review of hydrodynamic conditions in the vicinity of the discharges; and integration of compositional and kinetic data from produced water monitoring into existing models.

Response:

EPA agrees that the study would benefit if it included the activities suggested by OOC and plans to work with both Industry and MMS in developing an effective study which will be useful in future permitting efforts.

Comment Number 5:

OOC commented that the proposed permit language for discharges from facilities located in the National Marine Sanctuaries should not require that facilities discharging within the sanctuary predate establishment of the sanctuary and shunt discharges other than drilling fluids to within ten meters of the bottom. OOC also stated that the Fact Sheet and permit are inconsistent

with the marine sanctuary regulations in prohibiting the discharge of wastes within the sanctuary which originate outside its boundaries. In addition, the organization noted that Fact Sheet language stating that the requirements were consistent with stipulations of a recent pipeline authorization pertained to only one facility and were not appropriate for a general permit.

Response

In an effort to produce permit conditions which allow industry appropriate flexibility to discharge while protecting marine sanctuary resources, EPA sought insight on the National Marine Sanctuary regulations from the National Oceanic and Atmospheric Administration (NOAA). Since NOAA developed the regulations and administers them, the agency is considered the best authority for their interpretation.

NOAA has confirmed that the permit requirements are consistent with the regulations governing the sanctuary and that the specific permit conditions are necessary to comply with those regulations. EPA believes that it is also important that the permit does not include a discharge authorization which contradicts prohibitions which have been established by other agencies. Both the Minerals Management Service (MMS) and National Oceanic and Atmospheric Administration (NOAA) have issued requirements that apply to the one platform presently existing in the marine sanctuary. The permit's requirements are consistent with both NOAA's Authorization to Conduct Activities and MMS's Pipeline Right of Way Authorization.

EPA does not agree that the requirements are inappropriate for a general permit because they pertain to only one facility at this time. The requirements apply to all Areas of Biological Concern and National Marine Sanctuaries located in the area of coverage. They consist of the previous permit's discharge prohibitions and a relaxation of that requirement to better reflect the National Marine Sanctuary regulations.

Comment Number 6:

OOC commented that the permit should become effective 30 days after it is issued rather than 60 days as listed in the proposal.

Response

EPA Agrees. The permit will be effective 30 days after issuance.

Comment Number 7:

OOC commented that the requirement to submit the final Discharge Monitoring Report (DMR) within 60 days after termination of permit coverage may not be possible to meet in some cases due to administrative issues surrounding the pre-printed forms.

Response

The requirement was requested by EPA's Enforcement Division so that records may be updated in a timely manner. NPDES Permits Branch staff has worked with Enforcement Division staff to ensure that Industry will receive pre-printed DMRs in a timely manner. Since the DMRs will be received in time to fill out and return there does not appear to be a constraint which would prevent operators from meeting the 60-day deadline.

Comment Number 8:

OOC, PESA, and the Minerals Management Service (MMS) requested that the permit include updated test methods for solids analysis for cadmium in stock barite.

Response

EPA agrees and has made the requested change to the permit.

Comment Number 9:

OOC requested that the permit allow averaging the results of multiple sediment toxicity tests conducted over a three-month period to determine compliance with the sediment toxicity test.

Response

EPA agrees that averaging of results would reduce the variability of any test; however, averaging is not warranted in this case. The variability shown in the sample results supplied by industry does not appear to be a function of the test but instead of the laboratory conducting the tests. Additional information obtained from industry indicates that new formulations of drilling fluids which better ensure compliance with the permit's limits are currently in use. Therefore, the requested change appears unnecessary.

Comment Number 10: OOC

OOC requested a change in the permit language for measuring compliance with the synthetic based drilling fluids biodegradation limit. Rather than measuring the cumulative gas production, OOC suggested that the permit require use of % theoretical gas production to determine compliance.

Response

The existing permit language is based directly on the current effluent guidelines (40 CFR 435). The requested change in wording would require a change to the effluent guidelines and is beyond the scope of the proposed permit action. EPA Region 6 has forwarded this comment to EPA Headquarters for consideration in future rulemaking for this industry.

Comment Number 11:

> OOC and the Petroleum Equipment Suppliers Association (PESA) requested that the permit allow blending of compliant drilling fluids which are materially the same without conducting additional testing on the blend to show compliance with the limitations for stock base fluid.

Response

EPA agrees the additional testing is unnecessary to ensure compliance with the permit's limitations and has made the requested change in the final permit.

Comment Number 12:

OOC requested that the permit use the weighted average of biodegradation test results to determine compliance with the permits limits. This change would help operators more optimally use mud systems. It would also provide operators greater flexibility to compensate for changes in supply without needing to retest a new blend for 275 days.

Response

EPA agrees that blending compliant base fluids could be allowed without requiring each blend to be measured with the 275-day biodegradation test. However, use of a weighted average to measure compliance is inappropriate. Use of a weighted average would allow base fluids which do not meet the biodegradation limit to be used as long sufficient compliant fluids are used to produce a weighted average which complies with the limit. That allowance would be inconsistent with the Effluent Limitations Guidelines (see 40 CFR Part 435.13) and cannot be included in the permit. However, it does appear that the permit could be changed to give Industry greater flexibility in using compliant fluids, while meeting the requirements of the guidelines. The final permit has been changed to allow blending of compliant fluids as long as all blended fluids meet the biodegradation limit.

Comment Number 13:

OOC requested the authorization to discharge drill cuttings produced using straight C16-C18 internal olefins and C15-C18 and C16 internal olefins in cases where well temperatures exceed 300°F. OOC added that the ester/internal olefin blends presently used break down at high temperatures and may become toxic. Additionally, industry stated that the authority to discharge

cuttings produced using C15-C18 and C16 internal olefins would help avoid having to sole-source C16-C18 internal olefin from one supplier. OOC suggested that EPA implement an alternative compliance program as the mechanism for allowing these discharges and that they would be exempt from the sediment toxicity limit.

Response

EPA is not able to accommodate the request in the permit as it would circumvent the public participation procedures of the Clean Water Act and be inconsistent with the applicable Effluent Limitations Guidelines. Previously, EPA included alternate toxicity limits in the general permit to accommodate the use of diesel pills in freeing stuck pipe. The alternate toxicity limits were found to be inconsistent with the public participation requirements of the Clean Water Act (see 56 FR 15349, April 16, 1991). There also does not appear to be a mechanism available by which the permit could be issued without including the sediment toxicity limit required by Guidelines.

An alternative compliance program, such as requested, would have a high potential for administrative hold-ups with negative impacts on operators. Since it is unlikely that operators would know in advance that a well would have high temperatures, in most cases operators would need to halt drilling while obtaining authorization to forgo the compliance with the sediment toxicity limit. That interruption of operations could potentially be very costly. In addition, due to the large number of facilities covered under the permit, an alternative compliance program could present a large administrative burden. EPA would need to respond very quickly to operator's requests. There is no mechanism in place which would allow EPA to instantaneously respond to alternative compliance program requests in a way that meets the public participation obligations of the NPDES program and would not needlessly delay drilling operations.

New drilling fluid formulations are also now available which meet the performance requirements for high temperature wells and comply with the permit's limitations. Therefore, an allowance to discharge drilling fluids that do not meet the sediment toxicity limit appear unnecessary.

Comment Number 14:

OOC requested that EPA remove the requirement to collect the final monthly sediment toxicity sample at the end of drilling from the permit. The organization stated that the end-of-well sample is not necessary because, unlike water based muds, no bulk discharge of drilling fluids is made after drilling is completed. OOC also requested that the sediment toxicity limit be stated as a monthly average to compensate for testing variability.

Response

EPA does not concur with this request. The requirement to collect a final sample at the end of drilling was included in the permit with the intent of measuring the final mud system, including all additives, for compliance with the toxicity limits. Collection of a sample which measures the worst case scenario will ensure that the discharged drilling fluid is compliant with the toxicity limits throughout drilling.

The sediment toxicity tests are no more variable than other analytical tests. Information which has been submitted by Industry shows that variability of test results is often a function of the laboratory conducting the tests or the health of the test organisms and not the test method. Therefore, averaging test results is not an appropriate method for addressing test variability.

Comment Number 15:

OOC commented that the requirements for sanitary waste water discharges should be clarified to better differentiate the requirements for platforms manned by ten or more and nine or fewer persons.

Response

EPA agrees and has made the requested change in the final permit.

Comment Number 16:

OOC requested that hydrate control fluids are added to the list of authorized miscellaneous discharges. For subsea production, hydrate control fluid (e.g., ethylene glycol) is pumped via the umbilical to the wellhead from the host platform. The fluid is injected into the wellhead to prevent the gas from forming hydrates as it exits the well and enters the pipeline at near freezing temperature.

Response

EPA agrees that the request is appropriate and has made the change in the final permit.

Comment Number 17:

OOC requested that the toxicity limit for: Subsea Wellhead Preservation Fluids, Subsea Production Control Fluids, Umbilical Steel Tube Storage Fluids, Leak Tracer Fluids, and Riser Tensioning Fluids is decreased to from 200 mg/l to 50 mg/l. The change would allow the use of common hydraulic fluids without a significant environmental risk. OOC also requested that the permit language be clarified to show that survival at the critical dilution is the only compliance endpoint for the toxicity limit.

Response

The changes were made in the final permit as requested. It should, however be noted that while the compliance endpoint for this limit is lethality, the test protocol requires that non-lethal effects still are measured.

Comment Number 18:

OOC requested a change in the produced water toxicity testing language to show that only the survival portion of the test is required to be conducted.

Response

The request is denied. The non lethal endpoints are an integral part of the toxicity test and the information is needed for quality control. The request is also inconsistent with the testing protocol. The permit language is clarified to eliminate any ambiguity regarding this requirement.

Comment Number 19:

OOC requested the addition of new language in the permit to describe how results would be rounded when calculating compliance with the sediment toxicity and biodegradation limits.

Response

The new language has been included in the final permit as requested.

Comment Number 20:

OOC requested changes to the permit language defining the signatory authority to make it consistent with 40 CFR Part 122.22(a)(1)(ii).

Response

The change was made as requested.

Comment Number 21:

OOC requested a change in the permit's definition of deck drainage to include minimal treatment to maintain proper operation of deck drains and the sump system. OOC stated that the additional language will provide operators with open deck drains and associated sump systems the flexibility to ensure proper operation and maintenance by treating the systems to prevent biological fouling of pumps and process equipment.

Response

The requested language is inconsistent with the deck drainage definition in the Effluent Limitations Guidelines (see 40 CFR Part 435.11(g)) and has not been included in the final permit. The requested language does not add clarity to the definition and would appear to be unnecessarily redundant with other requirements contained in the permit.

Comment Number 22:

OOC requested that the definition of treatment chemicals preclude scale cleaners, sodium hypochlorite, and chlorine as they are used periodically to remove scale from desalinization units and should not be classified as treatment chemicals.

Response

EPA does not concur with the request. The chemicals in question are highly toxic and meet the definition of treatment chemicals (see Part II, Section G.81 of the permit).

OOC also requested correction of several typographical errors and inclusion of minor language clarifications which were made in the final permit.

Comment Number 23:

Minerals Management Service (MMS) requested that a date be identified for completion of an Environmental Assessment (EA) and that EPA clarify the timing for the final EA relative to issuance of the permit.

Response

The draft EA was developed and made available for public comment on August 20, 2004. EPA prepared a Record of Decision addressing all the issues which were raised. The Record of Decision which completes the NEPA process was signed on September 28, 2004.

Comment Number 24:

MMS commented that EPA has indicated that present levels of discharges are not causing a significant environmental impact, yet has raised a concern about anticipated future increases. No information is provided substantiating that produced waters will increase in the future and no information is provided on the level of produced water increases which would cause a significant impact. The river's contribution will overwhelm any impact caused by produced water. Such an analysis could be documented in the Environmental Assessment to accompany the next permit renewal if future increases in produced water are indicated.

Based on very limited data, EPA has concluded that the current levels of pollutants in produced water being discharged into the hypoxic zone may not be causing a significant environmental impact. EPA is concerned that if there are increases in the amount of pollutants discharged into the hypoxic zone that they may cause unreasonable degradation of the Gulf of Mexico.

Response

EPA agrees that the main cause of the hypoxia is thought to be nutrients originating in the Mississippi River. Information regarding the present pollutant loading from oil and gas produced water discharges, which could contribute to the hypoxia, is very limited. EPA did examine those limited data and existing studies and determined that sufficient information does not exist at this time to require new effluent limits for existing discharges. Information is also not presently available which would help to determine the level of increased discharges at which a significant impact would occur. EPA has the responsibility to determine whether there is the potential for all discharges that will be covered under the permit to cause unreasonable degradation of the marine environment. To assist in those efforts, EPA obtained MMS's projections for new oil and gas wells and platforms in the area of the hypoxia. Those projections were used to determine that there is a potential for increased future pollutant loading to the hypoxic zone. EPA plans to acquire additional and more precise data through the permit to ensure that the obligations under Ocean Discharge Criteria are met.

Comment Number 25:

MMS commented that EPA has issued an Administrative Compliance Order (ACO) to address regulation of discharges during the interim between the expiration of the preceding permit and the impending new permit. Communication between MMS Field Operations and industry indicate that even with the ACO as an option, industry is hesitant to rely on the ACO due to concerns about penalties for operating without a valid permit.

Response

The Administrative Compliance Order (ACO) is an option that EPA has provided for the discharges in question. Individual dischargers must determine whether to use that option or not. EPA cannot require it.

Comment Number 26:

MMS recommended that a new section be added in the permit that defines and identifies acronyms and abbreviations used in the document. The only terms described are "MGD", "mg/l" and "ug/l" on page 53.

Response

EPA does not concur with this request. EPA agrees that a new section in the permit that defines acronyms would be beneficial. However, in the interest of reissuing the permit in a timely fashion EPA would prefer to consider this request during the next permit issuance.

Comment Number 27:

MMS recommended that the summary of authorized discharges should be edited to include drilling activities defined by the U.S. Department of the Interior as requiring Geological and Geophysical permits.

Response

EPA does not concur with the request. EPA's permit, pursuant to the Clean Water Act authorizes discharges to waters and does not regulate drilling activities.

Comment Number 28:

MMS expressed a concern regarding permit language which allows the use of methods to increase dilution such as shutting in wells and requested that EPA coordinate this allowance with Industry.

Response

EPA discussed the permit language with Industry prior to including it in the draft permit. The permit language was requested by Industry to allow greater use of operational changes, where they are appropriate, to meet the permits toxicity limits.

Comment Number 29:

MMS requested that the definition of Areas of Biological Concern be modified to show that they are identified by EPA in agreement with MMS.

Response

EPA has the sole responsibility to define "Areas of Biological Concern" under this permit. EPA plans to consult with other agencies, including MMS in making such decisions in the future, but does not wish to limit input on those decisions only to MMS. There may be cases where Areas of Biological Concern are needed to meet requirements of Essential Fish Habitat or the Endangered Species Act. If those cases arise, EPA will need to coordinate most closely with the agencies administering the requirements. However, all interested parties will be given a chance to provide input in the decision.

Comment Number 30:

MMS noted inconsistencies in the Fact Sheet language discussing projections of produced water discharge rates and suggested that it states in one place that there is the potential for future increases while stating in others that it will remain constant or decrease.

Response

EPA apologizes for any inconsistencies noted in the Fact Sheet. While no evidence exists that great increases in the volume of produced water discharged to the hypoxic zone will occur in the near future, new wells are expected to be drilled which may produce new discharges. EPA relied heavily on MMS drilling projections and discharge data in developing the draft permit. The year to year volume of produced water discharged appears to vary greatly with no strong upward or downward long term trend. Incorporation of that information along with the projections that there may be a number of new wells drilled in the hypoxic zone probably resulted in the appearance of inconsistencies in the Fact Sheet.

Comment Number 31:

MMS commented that oil and gas production in the hypoxic zone is considered mature and decommissioning is projected to offset increased produced water discharges from aging wells. Exploration activity is not finding a significant number of new oil reservoirs in this area to replace the oil reservoirs being depleted. The new deep gas incentive will add some new wells, but gas wells do not produce large volumes of water. Therefore, future increases in the total volume of produced water to the hypoxia are unlikely. Given this scenario, if the current produced water volume in the hypoxic zone is acceptable, then, the future volumes should gradually decrease and also be acceptable.

Response

EPA agrees that the available data suggest there is not likely to be a large increase in the volume of produced water discharged to the hypoxic zone in the near future. EPA also agrees with MMS's assertion that a future decrease in the volume of produced water discharged is acceptable. Therefore, no new permit conditions were proposed which would require new controls on produced water discharges. MMS has, however, projected that there will be a number of new wells drilled in the future. While there is no reliable method to determine what volume of produced water will be discharged from future wells, those wells do have the potential to contribute new loadings of pollutants to the hypoxia. How much of that new loading will be offset by wells which are shut in is also not known with any certainty. Although there is not presently a need to add new permit limits to address discharges to the hypoxic zone, EPA is obligated to further evaluate this issue and determine whether there will be any future need to address impacts to hypoxia in this permit.

Comment Number 32:

MMS suggested that EPA be cognizant of existing produced water discharge data and trends in developing any study regarding the potential impacts on hypoxia.

Response

EPA, MMS, and other interested stakeholders will review and discuss all available information during the design of the proposed study.

Comment Number 33:

MMS commented that the significance of the volume of organics and nutrients in the river discharge to the hypoxia suggests a need for regulatory efforts addressing nutrients in the Mississippi River. MMS added that it is less clear that resources should be expended to revise regulation of produced water.

Response

EPA agrees that efforts need to be made to better understand and reduce Mississippi River nutrients being discharged to the Gulf of Mexico. However, with this action EPA is authorizing discharges from oil and gas exploration and production to the Gulf of Mexico. This requires that EPA determine the impact of these discharges on the marine environment. Ocean Discharge Criteria obligate EPA to ensure that the discharges do not unreasonably degrade the marine environment. Because these discharges contain concentrations of oxygen demanding pollutants and nutrients, EPA is required to make every effort to understand the potential impacts. Therefore, EPA is proposing a study to evaluate the potential effects of these discharges.

Comment Number 34:

MMS noted that the Fact Sheet attributed biochemical oxygen demand data to MMS while it was actually provided by OOC.

Response

The data in question was provided to EPA by MMS. EPA is aware that the source of the data is the OOC.

Comment Number 35:

MMS commented that the Fact Sheet's presentation of percent and tonne contributions of hydrocarbons from various sources is confusing and possibly misleads the reader to think that produced water contributes the majority of the hydrocarbon discharges to the Gulf of Mexico. The data provided in the referenced NRC report indicates that produced water contributes only

about 1% to hydrocarbon discharges. However, MMS agrees with EPA and the NRC report recommendation to support research to improve understanding of oil discharges.

Response

EPA concurs that more research is needed to determine the impact of hydrocarbon discharges. Although it may not be the largest contributor, oil and gas exploration and production activities are under the scope of this permit and EPA is required to examine the potential impacts of those discharges as a part of this permit issuance.

Comment Number 36:

MMS commented that the present permit should not be delayed further for concerns about possible future outcomes. EPA, working with MMS and other stakeholders, can move forward with an evaluation of produced water contribution to hypoxia during the three years proposed for permit renewal. However, the permit and a study of future discharges should be de-coupled so that permit renewal is not delayed. This would also allow a study to proceed which is based on the best possible science rather than being rushed for the permit schedule.

Response

EPA places a high priority on issuing this permit quickly and is not tying issuance to completion of the study or its design.

Comment Number 37:

MMS commented that the description of the proposed study area contains some errors which need to be corrected to facilitate the study design and planning.

Response

As EPA works with MMS in designing the study, its area will be laid out in detail and with input considered from all parties involved.

Comment Number 38:

MMS noted that the Fact Sheet provides details on the effluent characterization and near field testing for the produced water study which has not been fully designed and suggests that those details are removed from the permit.

Response

The purpose for the details mentioned was to give the public and industry an indication of the data that may be collected during the proposed study. It is important that the public and the regulated community be given every chance to participate in the permitting process.

Comment Number 39:

MMS noted an error in the citations listed in the Fact Sheet. The first citation by Rabalais was actually authored by Goolsby. This publication should be cited as:
Goolsby, Donald A., William A. Battaglin, Gregory B. Lawrence, Richard S. Artz, Brent T. Aulenbach, Richard P. Hooper, Dennis R. Keeney, and Gary J. Stensland. 1999. Flux and Sources of Nutrients in the Mississippi–Atchafalaya River Basin: Topic 3 Report for the Integrated Assessment on Hypoxia in the Gulf of Mexico. NOAA Coastal Ocean Program Decision Analysis Series No. 17. NOAA Coastal Ocean Program, Silver Spring, MD. 130 pp.

Response

The error is noted in the administrative record.

Comment Number 40:

MMS commented that various studies have concluded that oil and gas activities have not impacted the coral reefs in the Flower Garden Banks National Marine Sanctuary.

Response

EPA acknowledges these studies. The comment is noted in the administrative record.

Comment Number 41:

MMS requested addition of the following reference in the administrative record:

Kennicutt, M.C. II, ed. 1995. Gulf of Mexico Offshore Operations Monitoring Experiment, Phase I: Sublethal Responses to Contaminant Exposure. Final Report. OCS Study MMS 95-0045. U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, Louisiana. 709 pp.

Response

Although it is essentially identical, the report contained in the administrative record is:

Kennicutt, M.C. II, et, al., 1996, Gulf of Mexico Offshore Operations Monitoring Experiment, Phase I: Sublethal Responses to Contaminant Exposure - Introduction and Overview, Canadian Journal of Fisheries and Aquatic Sciences, National Research Council, Canada, p. 2540 - 2553.

MMS also noted several typographical errors which have been corrected in the final permit.

Comment Number 42:

The Petroleum Equipment Suppliers Association (PESA) requested several changes to the sediment toxicity, formation oil contamination, and PAH tests required by the Effluent Limitations Guidelines.

Response

EPA agrees that the changes are worthy of consideration. However, they are beyond the scope of this permit. The request is inconsistent with the Effluent Limitations Guidelines (see 40 CFR Part 435.13) and would require changes in that regulation before they could be implemented in this permit. EPA Region 6 will forward this comment to EPA Headquarters for their consideration in future rulemaking.

Comment Number 43:

PESA commented that the Appendix listed in the expired permit describing the details of the toxicity and biodegradation tests should be included in the revised permit. The information contained in the appendix will minimize confusion and aid in reduction of testing variability.

Response

The change has been made to include the appendices in the final permit.

Comment Number 44:

PESA requested that EPA include the current GC/MS Method listed in the appendix of the expired permit in the revised permit in order minimize confusion for the laboratories conducting the test and provide a universal pass/fail standard.

Response

EPA concurs. The reissued permit contains the same appendices as the expired permit.

Comment Number 45:

COGNIS commended EPA for its decision to eliminate the variability factor for use in determining compliance with the permit limitations for sediment toxicity, and biodegradation, stating that the action is consistent with the "Effluent Limitation Guidelines and New Source Performance Standards for Synthetic-Based and other Non-Aqueous Drilling Fluids", promulgated in January, 2001 (40 CFR Part 235), and will further reduce the discharge of potentially harmful non aqueous fluids into the marine environment.

Response

EPA acknowledges and appreciates the comment on the decision to eliminate the variability factor in the permit.

Comment Number 46:

COGNIS suggested that a higher level of environmental protection could be achieved if EPA takes the next step to establish a unified reference standard for synthetic base fluids, and ultimately, numerical limitations for sediment toxicity and biodegradation. This would be a significant improvement over the current requirements, which stipulate stock limitations for the C16-C18 Internal Olefin (10), the C12-C14 and the C8 vegetable esters, with sediment toxicity and biodegradation ratios less than or equal to 1.0, as the basis for determining compliance for the cuttings being discharged. A unified reference standard could be derived from a blend of the two stock fluids specified in the Guidelines and proportioned to meet both drilling and environmental performance objectives.

Response

EPA believes the comment contains merit and is worthy of further exploration. However, the requested changes are beyond the scope of this permit and would require changes to the Effluent Limitations Guidelines because it is inconsistent with those regulations (see 40 CFR Part 435.13). EPA Region 6 will forward the suggestion to EPA Headquarters for further consideration.

Comment Number 47:

COGNIS commented that in drafting the guidelines EPA noted a concern regarding the potential for thermal degradation of pure vegetable ester systems, at bottom-hole temperatures above 250^0 F. This concern largely contributed to the selection of the C16-C18 10 as, "Best Available Technology" (BAT), despite the superior environmental characteristics of the ester systems. Since then optimized ester-based formulations have extended their temperature stability up to 350^0 F and beyond, by applying improved emulsifiers and limiting alkalinity in the system. COGNIS recognizes the potential for hydrolysis of the ester to occur under the extreme conditions of high temperature ($+300^0$ F), and high alkalinity, but stated that those conditions occur very infrequently, and can be anticipated and controlled. Consequently, a reference standard comprising a tailored blend of the C16-C18 10 and the C16-C18 and/or C8 vegetable esters, could achieve not only excellent high temperature stability but also improved environmental performance. Going one step further, such a high performance blend could be the basis for numerical limits for both sediment toxicity and biodegradation, given the fact that testing laboratories are now very familiar with the test protocols, and method variability is much reduced. COGNIS recommended that EPA adopt the unified reference standard approach, raise the bar on both environmental and drilling performance, and preclude the use of potentially harmful synthetics and non aqueous base fluids, (viz. C15-C18 10, PAO, LAO, and Paraffinic

solvents). It should also be noted that olefins (105) at high temperatures tend to oxidize, generating ketones, peroxides and other by-products which are toxic to marine organisms. The blending of saturated c-chain vegetable esters with the olefins (at high temperatures), have been shown to mitigate the adverse effects.

In addition, COGNIS noted that several studies have shown a strange correlation between carbon chain length of IOs and aquatic toxicity. In particular, c-chain lengths of C15 and below have proven highly toxic, and consequently we strongly recommend to EPA that the discharge of IOs below the C16-C18 fraction should be strictly prohibited. In conclusion, the current state of the art in synthetic drilling fluids suggests that a C16-C18 ION vegetable Ester Blend could effectively represent a unified reference standard for this class of fluids, offering both excellent drilling performance and a high degree of environmental protection. Cognis exhorts the EPA to adopt this standard and continue its proactive stance on protecting the marine environment.

Response

EPA agrees that new drilling fluids blends may resolve issues which were previously raised regarding the sediment toxicity limit and high temperature wells. The information submitted by COGNIS is appreciated. Unfortunately, the request to prohibit certain based fluids and incorporate a unified reference standard is beyond the scope of this permit and will require changes to the Effluent Limitations Guidelines because this unified reference standard is inconsistent with those regulations (see 40 CFR Part 435.13). EPA will forward this comment to EPA Headquarters for their consideration in future rulemaking.

Comment Number 48:

W&T Offshore commented that NOAA has no authority to create a blanket prohibition on discharges in National Marine Sanctuaries, as they have been applied to the High Island A-389 facility.

Response

EPA is not the authority for determining the limitations of NOAA's regulatory authority. The general permit has contained a prohibition of all discharges within the Flower Garden Banks National Marine Sanctuary since 1993. As a part of this reissuance, EPA has determined that it may be appropriate to slightly relax that prohibition and relieve W&T of some regulatory burden. EPA confirmed with NOAA that the relaxed permit conditions are still consistent with the National Marine Sanctuary regulations and their intent. Those new conditions are included in the final permit as they were proposed and now authorize W&T to make some discharges associated with the operation of the platform at High Island A-389.

Comment Number 49:

W&T Offshore commented that the permit's prohibition of discharges in Areas of Biological Concern does not apply to High Island A-389.

Response

The expired permit not only prohibits discharges within Areas of Biological Concern, but also prohibits all discharges within the Flower Garden Banks National Marine Sanctuary. That prohibition has been included in the permit since 1993. While there may be some reason to believe that the discharge prohibition in Areas of Biological Concern does not apply to W&T's facility, the prohibition of discharge within the marine sanctuary does apply. That prohibition has been relaxed slightly through this permit action, thereby giving W&T greater flexibility.

Comment Number 50:

W&T Offshore commented that oil and gas operations are not prohibited in the Flower Garden Banks National Marine Sanctuary at High Island A-389 and NOAA's designation of the sanctuary cannot terminate rights under the MMS lease.

Response

The scope of this action only includes the authorization of discharges made from offshore oil and gas platforms. The permit does not contain any requirements which prohibit a platform from being located anywhere in the Gulf of Mexico or which would dictate whether a platform could operate on a particular lease. Since oil and gas platforms can operate without discharging, this permit does not terminate any right given under an MMS lease.

The operational requirements for oil and gas facilities and any right allowed by a lease fall under the jurisdiction of the Minerals Management Service and its leasing program. NOAA's regulations also address oil and gas operations within National Marine Sanctuaries; therefore, it appears that NOAA also has regulatory authority over oil and gas activities conducted within sanctuaries. The general permit does not contain any such provisions.

Comment Number 51:

W&T commented that the Fact Sheet incorrectly states that scientific studies have concluded that there is a need to restrict discharges to the Flower Garden Banks National Marine Sanctuary.

Response

EPA agrees that existing research suggests that discharges, as they are presently authorized by the general permit do not appear to be impacting sanctuary resources. Therefore, EPA proposed a relaxation of the permit's previous discharge prohibition. Those less restrictive conditions are included in the final permit.